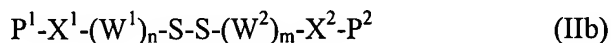


AMENDMENTS TO THE CLAIMS

1-9. Cancelled

10. (Withdrawn - Currently Amended) A method of synthesizing an array of diverse small ligand molecules on the same surface of a solid support having optional spacers, said small ligand molecules being removable therefrom upon treatment with a suitable disulfide cleaving reagent, said method comprising:

- (a) contacting the surface of a solid support with an unsymmetrical disulfide linking group of formula:



wherein,

P^1 and P^2 are each members independently selected from the group consisting of a hydrogen atom, an activating group and a protecting group;

X^1 and X^2 are each independently selected from the group consisting of a bond, -O-, -NH-, -NR- and -CO₂-, wherein R is a lower alkyl group having one to four carbon atoms;

W^1 and W^2 are each independently selected from the group consisting of methylene, oxyethylene and oxypropylene; and

n and m are each independently integers of from 2 to 12 with the proviso that n and m are not the same when W^1 and W^2 are the same,

to produce a derivatized solid support having attached unsymmetrical disulfide linking groups suitably protected with protecting groups;

- (b) optionally removing said protecting groups, if present, from said derivatized solid support to provide a derivatized solid support having unsymmetrical disulfide linking groups with synthesis initiation sites; and
- (c) coupling said small ligand molecules to said synthesis initiation sites on said derivatized solid support to produce a solid support having an array of diverse small ligand molecules on the same surface which are removable therefrom upon application of said disulfide cleaving agent.

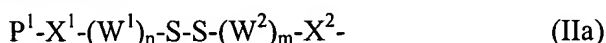
11-22. Cancelled

23. (Currently Amended) A method of synthesizing an array of diverse polymers on the same surface of a support substrate, comprising:

- (a) providing a modified support substrate for use in solid phase chemical synthesis, said substrate having the formula:



wherein A is a surface of a solid support, B is a bond or a spacer group, and L is a linking group having the formula:



wherein:

P^1 is a protecting group;

X^1 and X^2 are each independently selected from the group consisting of a bond, -O-, -NH-, -NR- and -CO₂-, wherein R is a lower alkyl group having one to four carbon atoms;

W^1 and W^2 are each independently selected from the group consisting of methylene, oxyethylene and oxypropylene; and

n and m are each independently integers of from 2 to 12 with the proviso that n and m are not the same when W^1 and W^2 are the same; and

- (b) preparing an array of diverse polymers on the same surface of said modified support substrate.

24. (Previously Presented) The method of Claim 23, wherein P^1 is a photolabile protecting group.

25. (Previously Presented) The method of Claim 23, wherein P^1 is a photolabile protecting group, W^1 and W^2 are both methylene, and X^1 and X^2 are both -O-.

26. (Previously Presented) The method of Claim 23, wherein P^1 is a photolabile protecting group, X^1 and X^2 are both -O-, and n and m are each integers of from 2 to 8.

27. (Previously Presented) The method of Claim 26, wherein n is 2.

28. (Currently Amended) The method of Claim 23, wherein P¹ is dimethoxytrityl ~~DMT~~, X¹ and X² are both -O-, W¹ and W² are both methylene, and n and m are each integers of from 2 to 8.
29. (Previously Presented) The method of Claim 28, wherein n is 2.
30. (Withdrawn) The method of Claim 23, wherein the polymers are peptides.
31. (Previously Presented) The method of Claim 23, wherein the polymers are polynucleotides.
32. (Currently Amended) The method of Claim 23, wherein the preparing an array comprises:
- (i) optionally removing said protecting groups from the same surface of said modified support substrate to provide a modified support with synthesis initiation sites; and
 - (ii) coupling monomers to said synthesis initiation sites on the same surface of said modified support substrate to produce a modified support substrate having an array of diverse polymers.
33. (Currently Amended) The method of Claim 32, wherein the protecting groups are removed from selected regions of the modified support ~~are activated~~ with light.
34. (Previously Presented) The method of Claim 23, further comprising releasing the polymers from the modified support.